EFFECT OF MUSIC ON ANXIETY DURING INTRAUTERINE INSEMINATION: A RANDOMIZED CONTROLLED TRIAL

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Background: Like many in-office gynecologic procedures, intrauterine insemination (IUI) can be associated with anxiety and pain. Decreased anxiety during IUI has been shown to lower procedural difficulty and improve both patient satisfaction and pregnancy success [1, 2]. Complementary and integrative medicine offers a non-pharmacologic modality to improve procedural related pain and anxiety. However, data on efficacy of complementary medicine during IUI treatments are limited.

Objective: To evaluate the effect of music therapy during IUI on patient-reported procedural pain and anxiety scores.

Materials and Methods: We performed a randomized controlled trial of patients who underwent IUI at our academic hospital-based clinic between August 3, 2022 and September 29, 2023. Participants were randomized a priori with a 1-to-1 variable block approach to either a music intervention or nonmusic (control) group on the day of IUI procedure. Participants in the music intervention group selected their preferred music to be played during the procedure. Patients who required an interpreter, had hearing impairment, or who required a medical doctor to perform the IUI due to procedural difficulty were excluded. Anxiety and pain scores were assessed before, during, and after IUI using the 100-mm Visual Analogue Scale (VAS) and Wong Baker Pain Score, respectively. After the procedure, patients completed a satisfaction survey. Anxiety and pain scores were compared between groups using two sample *t-test* at each procedural time point. Cohen's d was calculated to estimate effect size for anxiety and pain.

Results: 100 patients met inclusion criteria and were randomly assigned to listen to music (n = 50) or no music (n = 50). All participants completed the study. There were no differences in demographic characteristics or baseline anxiety scores between groups. Participants reported similar anxiety scores before and during the procedure regardless of whether music was played. However, those in the music intervention group reported lower post-procedure anxiety scores (12.0, 95% CI [8.3, 15.8] vs. 18.6, 95% CI [13.6, 23.5], p=0.04) compared to controls (Figure 1). No significant differences in pain score were noted at any point in the procedure (Figure 2). High levels of satisfaction were noted in the music intervention group (94%) and over 70% of all participants reported they would prefer music to be played if another IUI was needed (Figure 3).

Conclusions: Patients who listened to music during IUI reported lower anxiety scores at the conclusion of the procedure and had high satisfaction rates. No differences in pain were noted based on music intervention.

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References:

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FIGURE 1: Analysis of Mean Changes in Anxiety Scores Based on Music Exposure during IUI

Anxiety Score

	Group				
	No Music (n = 50)	Music (n = 50)	Cohen's d	p-value	FDR
Before IUI	37.1 (31.1, 43.2)	34.9 (27.9, 41.9)	-0.1 (-0.5, 0.3)	0.63	0.63
During IUI	40.5 (34.2, 46.8)	32.9 (26.1, 39.7)	-0.3 (-0.7, 0.1)	0.10	0.24
After IUI	18.6 (13.6, 23.5)	12.0 (8.3, 15.8)	-0.4 (-0.8, 0.02)	0.04	0.22

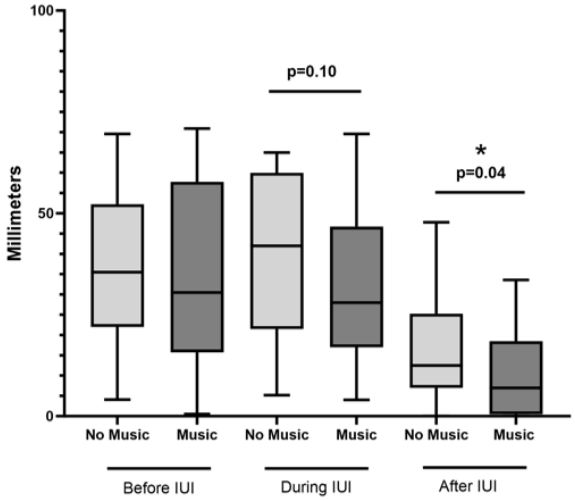

FIGURE 2: Analysis of Mean Changes in Pain Scores Based on Music Exposure during IUI

Pain Score

	Group				
	No Music (n = 50)	Music (n = 50)	Cohen's d	p-value	FDR
Before IUI	0.5 (0.2, 0.8)	0.3 (0.1, 0.6)	-0.2 (-0.6, 0.2)	0.35	0.47
During IUI	2.3 (1.7, 2.9)	2.7 (2.0, 3.4)	0.2 (-0.2, 0.6)	0.39	0.47
After IUI	1.1 (0.6, 1.6)	0.6 (0.3, 1.0)	-0.3 (-0.7, 0.1)	0.12	0.24

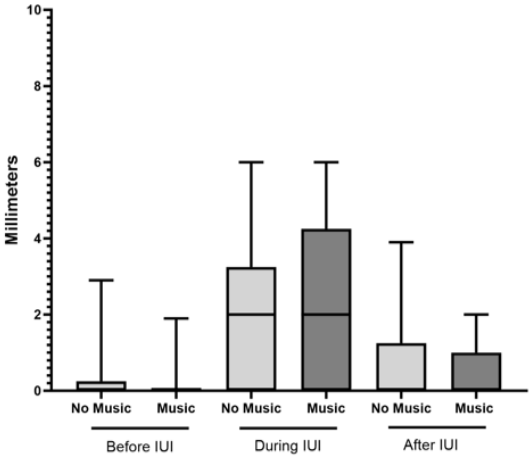

FIGURE 3: Patient Satisfaction Survey Results